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Feynman Integral Evaluation by a Sector decomposiTion Approach (FIESTA)

Friday 26 February 2010 14:30 (30 minutes)

Sector decomposition in its practical aspect is a constructive method used to evaluate Feynman integrals numerically. We present a new program performing the sector decomposition and integrating the expression afterwards. Also the program can be used in order to expand Feynman integrals automatically in limits of momenta and masses with the use of sector decompositions and Mellin–Barnes representations. The program is parallelizable on modern multicore computers and even to multiple computers.

Also we demonstrate some new numerical results for four-loop massless propagator master integrals.

Author: TENTYUKOV, Mikhail (Karlsruhe University)

Co-authors: SMIRNOV, Alexander (Scientific Research Computing Center of Moscow State University); SMIRNOV, Vladimir (Nuclear Physics Institute of Moscow State University)

Presenter: TENTYUKOV, Mikhail (Karlsruhe University)

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